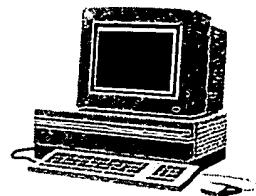


BioTech-Chem Library

Search Results

Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the BioTech-Chem searcher* who conducted the search *or contact:*

Mary Hale, Supervisor, 308-4258
CM-1 Room 1E01

Voluntary Results Feedback Form

➤ *I am an examiner in Workgroup:* _____ (*Example: 1610*)

➤ *Relevant prior art found, search results used as follows:*

- 102 rejection
- 103 rejection
- Cited as being of interest.
- Helped examiner better understand the invention.
- Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- Foreign Patent(s)
- Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- Results verified the lack of relevant prior art (helped determine patentability).
- Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms at the **Circulation Desk CM-1**, or send to Mary Hale, **CM1-1E01** or e-mail mary.hale@uspto.gov.

=> fil reg
FILE 'REGISTRY' ENTERED AT 14:21:43 ON 04 MAY 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 American Chemical Society (ACS)

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 - 703-308-4498
jan.delaval@uspto.gov

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 2 MAY 2003 HIGHEST RN 509953-09-7
DICTIONARY FILE UPDATES: 2 MAY 2003 HIGHEST RN 509953-09-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d ide can 17

L7 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 6788-84-7 REGISTRY
CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 1,2-Dioxacyclobutane
CN Dioxetane
FS 3D CONCORD
MF C2 H4 O2
CI RPS
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT,
CAOLD, CAPLUS, CASREACT, CIN, DETHERM*, MEDLINE, PIRA, PROMT, SPECINFO,
TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

O—O

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

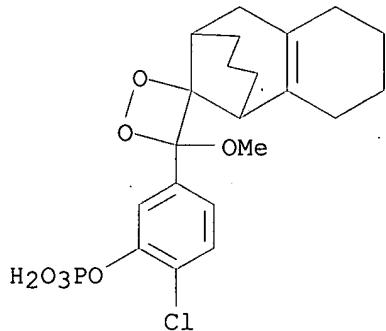
235 REFERENCES IN FILE CA (1957 TO DATE)
140 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
236 REFERENCES IN FILE CAPLUS (1957 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:232942
REFERENCE 2: 138:204648
REFERENCE 3: 138:69486
REFERENCE 4: 137:306956
REFERENCE 5: 137:246527

REFERENCE 6: 137:244282
 REFERENCE 7: 137:176455
 REFERENCE 8: 137:106074
 REFERENCE 9: 137:62928
 REFERENCE 10: 137:2769

=> d ide can tot l10

L10 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2003 ACS
 RN 260791-04-6 REGISTRY
 CN Phenol, 2-chloro-5-(1',2',3',4',5',6',7',8',9',10'-decahydro-4-methoxyspiro[1,2-dioxetane-3,11'-[5,9]methanobenzocycloocten]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)
 MF C21 H26 Cl O7 P . 2 Na
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

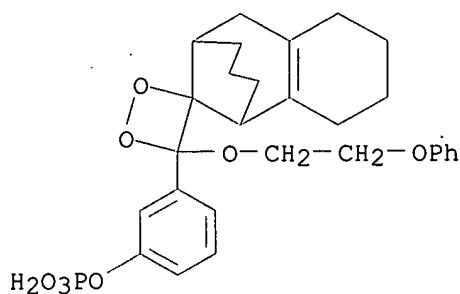


●2 Na

2 REFERENCES IN FILE CA (1957 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 136:147113
 REFERENCE 2: 132:207956

L10 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2003 ACS
 RN 260791-02-4 REGISTRY
 CN Phénol, 3-[1',2',3',4',5',6',7',8',9',10'-decahydro-4-(2-phenoxyethoxy)spiro[1,2-dioxetane-3,11'-[5,9]methanobenzocycloocten]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)
 MF C28 H33 O8 P . 2 Na
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

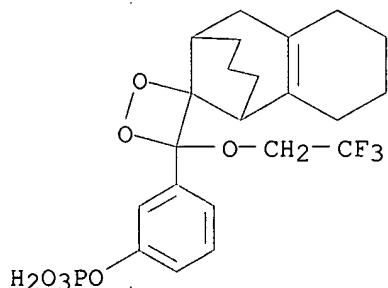


●2 Na

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:207956

L10 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2003 ACS
 RN 260791-00-2 REGISTRY
 CN Phenol, 3-[1',2',3',4',5',6',7',8',9',10'-decahydro-4-(2,2,2-trifluoroethoxy)spiro[1,2-dioxetane-3,11'-(5,9)methanobenzocycloocten]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)
 MF C22 H26 F3 O7 P . 2 Na
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

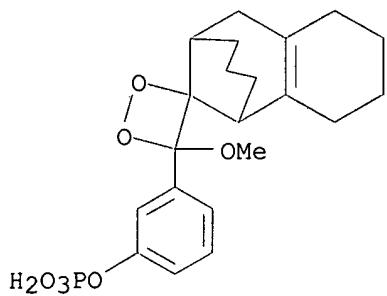


●2 Na

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:207956

L10 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2003 ACS
 RN 260790-98-5 REGISTRY
 CN Phenol, 3-(1',2',3',4',5',6',7',8',9',10'-decahydro-4-methoxyspiro[1,2-dioxetane-3,11'-(5,9)methanobenzocycloocten]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)
 MF C21 H27 O7 P . 2 Na
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

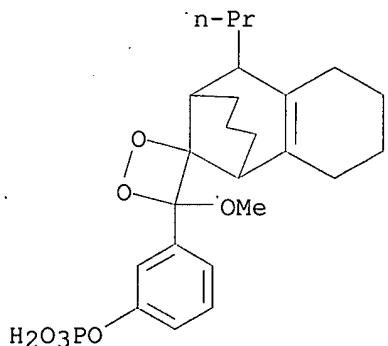


●2 Na

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:207956

L10 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2003 ACS
RN 260790-97-4 REGISTRY
CN Phénol, 3-(1',2',3',4',5',6',7',8',9',10'-decahydro-4-methoxy-10'-propylspiro[1,2-dioxetane-3,11'-(5,9)methanobenzocycloocten]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)
MF C₂₄ H₃₃ O₇ P . 2 Na
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

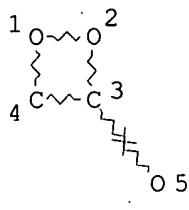


●2 Na

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:207956

=> d sta que 113
L11 STR



*Generic
Structure -
Open*

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L13 742 SEA FILE=REGISTRY SSS FUL L11

100.0% PROCESSED . 4468 ITERATIONS
SEARCH TIME: 00.00.01

742 ANSWERS

=> d his

(FILE 'HOME' ENTERED AT 13:34:14 ON 04 MAY 2003)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 13:34:25 ON 04 MAY 2003
E US20020013250/PN

L1 1 S E3
E GIRI B/AU
L2 31 S E3,E5,E11,E12
L3 1 S L1 AND L2
L4 30 S L2 NOT L3
SEL RN L3

FILE 'REGISTRY' ENTERED AT 13:37:16 ON 04 MAY 2003

L5 28 S E1-E28
L6 1 S L5 AND C21H26CL07P
L7 1 S L5 AND O2C2/ES
L8 6 S 61222.4/RID
L9 5 S L8 NOT RPS/CI
L10 5 S L6,L9
L11 STR
L12 41 S L11
L13 742 S L11 FUL
SAV TEMP L13 GITOMER883/A
L14 737 S L13 NOT L10

FILE 'HCAPLUS' ENTERED AT 13:42:49 ON 04 MAY 2003

L15 2 S L10
L16 235 S L7
L17 142 S L7/D
L18 1 S L15 AND L16,L17
L19 2 S L15,L18
L20 541 S L14
L21 712 S L16,L17,L20
L22 4 S L21 AND L1-L4
L23 4 S L19,L22

L24 22218 S BETA GALACTOSIDASE
 L25 48559 S (ALK OR ALKALIN?) () PHOSPHATASE
 L26 21874 S CHOLINESTERASE

FILE 'REGISTRY' ENTERED AT 13:48:45 ON 04 MAY 2003
 L27 3 S 9001-78-9 OR 9031-11-2 OR 9001-08-5

FILE 'HCAPLUS' ENTERED AT 13:49:02 ON 04 MAY 2003
 L28 56600 S L27
 L29 164 S L21 AND L24-L26
 L30 141 S L21 AND L28
 L31 116 S L21 AND ENZYM?/SC, SX, CW
 L32 223 S L29-L31
 E CHEMILUMINESCENCE/CT
 E E3+ALL
 E E2+ALL
 L33 7858 S E5, E4+NT
 E E3+ALL
 L34 200292 S E3+NT
 E E45+ALL
 E E9+ALL
 L35 713 S E4, E5
 L36 39790 S E3+NT
 E E6+ALL
 E E8+ALL
 L37 2486 S E4-E6, E3+NT
 L38 357 S L21 AND L33-L37
 L39 135 S L38 AND L32
 L40 223 S L32, L39
 SEL RN L23

FILE 'REGISTRY' ENTERED AT 14:03:41 ON 04 MAY 2003
 L41 102 S E1-E102
 L42 13 S L41 AND L13
 L43 1 S L41 AND L7
 L44 14 S L42, L43
 L45 14 S L10, L44
 L46 3 S L41 AND L27
 L47 85 S L41 NOT L42-L46
 L48 6 S L47 AND PMS/CI
 L49 5 S L48 NOT CH2O

FILE 'HCAPLUS' ENTERED AT 14:07:47 ON 04 MAY 2003
 L50 31 S L49
 L51 16 S L50 AND L40
 L52 19 S L50 AND L21
 L53 19 S L51, L52

FILE 'REGISTRY' ENTERED AT 14:12:36 ON 04 MAY 2003
 L54 1 S 9017-80-5
 L55 1 S 135781-07-6
 L56 1 S 135781-07-6
 L57 1 S 146985-47-9
 L58 1 S 161697-30-9
 L59 1 S 181871-50-1

FILE 'HCAPLUS' ENTERED AT 14:14:30 ON 04 MAY 2003
 L60 468 S L54-L59
 L61 15 S L60 AND L21
 L62 24 S L53, L61

FILE 'REGISTRY' ENTERED AT 14:15:13 ON 04 MAY 2003
 L63 79 S L47 NOT L48-L49

L64 79 S L63 NOT L13
 L65 18 S L64 AND L5
 L66 61 S L64 NOT L65
 L67 1 S L66 AND METHANOL
 L68 19 S L65, L67

FILE 'HCAPLUS' ENTERED AT 14:17:09 ON 04 MAY 2003

L69 8 S L68 AND L62
 L70 11 S L69, L23
 L71 11 S L70 AND L1-L4, L15-L26, L28-L40, L50-L53, L60-L62, L69-L70
 L72 9 S L71 AND ?POLYM?
 L73 2 S L71 NOT L72
 L74 11 S L73, L72
 L75 4 S L74 AND GIRI ?/AU
 L76 7 S L74 NOT L75
 L77 2 S L76 AND SAPPHIR? II
 L78 7 S L76, L77
 L79 10 S L74 AND DIOXETAN?
 L80 11 S L74-L79
 L81 7 S L80 NOT GIRI ?/AU
 L82 4 S L80 NOT L81

FILE 'REGISTRY' ENTERED AT 14:21:43 ON 04 MAY 2003

=> fil hcaplus
 FILE 'HCAPLUS' ENTERED AT 14:22:52 ON 04 MAY 2003
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 4 May 2003 VOL 138 ISS 19
 FILE LAST UPDATED: 2 May 2003 (20030502/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 182 all hitstr tot

L82 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 AN 2002:90601 HCAPLUS
 DN 136:147113
 TI Single molecule detection of enzymes using enhanced chemiluminescence from 1,2-dioxetanes and water-soluble, water-insoluble or partially-water soluble polymers
 IN Giri, Brij P.
 PA USA
 SO U.S. Pat. Appl. Publ., 19 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C12S009-00

ICS C11D003-00

NCL 510392000

CC 7-1 (Enzymes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002013250	A1	20020131	US 2001-883586	20010618 <--
PRAI	US 2000-212883P	P	20000617		
OS	MARPAT 136:147113				
AB	<p>A chemiluminescent 1,2-dioxetane includes an enzyme-triggerable stable 1,2-dioxetane; a polymeric enhancer which is either an ammonium or phosphonium salt of a polyvinylbenzyl chloride; and an aq. enzyme diluent or stabilizer comprising a metal halide, alc., amine-based salt, or blood or plant protein. The system is efficacious for single mol. detection of enzymes such as alk. phosphatase, .beta.-galactosidase, and cholinesterase. Thus, chemiluminescence detn. of alk. phosphatase using [(4-methoxy)-4-(3-phosphoryloxy-4-chlorophenyl)sipro[1,2-dioxetane-3,3-tricyclo[7.3.1.02,7]tridec-2,7-ene] disodium salt and polyvinylbenzyltrioctylphosphonium chloride was demonstrated.</p>				
ST	<p>phosphatase chemiluminescence detn. dioxetane polyvinylbenzyltrioctylphosphonium chloride</p>				
IT	<p>Alcohols, analysis Halides</p>				
	<p>RL: ARU (Analytical role, unclassified); ANST (Analytical study) (enzyme stabilizer; single mol. detection of enzymes using enhanced chemiluminescence from 1,2-dioxetanes and water-sol., water-insol. or partially-water sol. polymers)</p>				
IT	<p>Proteins</p>				
	<p>RL: ARU (Analytical role, unclassified); ANST (Analytical study) (of blood or plant, enzyme stabilizer; single mol. detection of enzymes using enhanced chemiluminescence from 1,2-dioxetanes and water-sol., water-insol. or partially-water sol. polymers)</p>				
IT	<p>Amines, analysis</p>				
	<p>RL: ARU (Analytical role, unclassified); ANST (Analytical study) (salts, enzyme stabilizer; single mol. detection of enzymes using enhanced chemiluminescence from 1,2-dioxetanes and water-sol., water-insol. or partially-water sol. polymers)</p>				
IT	<p>Chemiluminescence spectroscopy</p>				
	<p>(single mol. detection of enzymes using enhanced chemiluminescence from 1,2-dioxetanes and water-sol., water-insol. or partially-water sol. polymers)</p>				
IT	<p>Polymers, analysis</p>				
	<p>RL: ARU (Analytical role, unclassified); ANST (Analytical study) (trialkylammonium- or trialkylphosphonium; single mol. detection of enzymes using enhanced chemiluminescence from 1,2-dioxetanes and water-sol., water-insol. or partially-water sol. polymers)</p>				
IT	<p>56-81-5, Glycerol, analysis 64-17-5, Ethanol, analysis 67-63-0, Isopropyl alcohol, analysis 71-23-8, Propyl alcohol, analysis 71-36-3, Butyl alcohol, analysis 75-65-0, tert-Butyl alcohol, analysis 77-86-1, Tris 78-83-1, Isobutyl alcohol, analysis 78-92-2, sec-Butyl alcohol 102-71-6, Triethanolamine, analysis 107-21-1, Ethylene glycol, analysis 109-86-4, Ethylene glycol methyl ether 111-42-2, Diethanolamine, analysis 124-68-5, 2-Amino-2-methyl-1-propanol 7447-40-7, Potassium chloride, analysis 7646-85-7, Zinc chloride, analysis 7647-14-5, Sodium chloride, analysis 7786-30-3, Magnesium chloride, analysis</p>				
	<p>RL: ARU (Analytical role, unclassified); ANST (Analytical study) (enzyme stabilizer; single mol. detection of enzymes using enhanced</p>				

chemiluminescence from 1,2-dioxetanes and water-sol.,
water-insol. or partially-water sol. polymers)

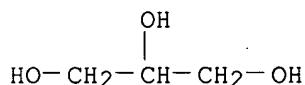
IT 9001-08-5, Cholinesterase 9001-78-9
9031-11-2, β -Galactosidase
RL: ANT (Analyte); ANST (Analytical study)
(single mol. detection of enzymes using enhanced chemiluminescence from
1,2-dioxetanes and water-sol., water-insol. or
partially-water sol. polymers)

IT 6788-84-7D, 1,2-Dioxetane, derivs. 260791-04-6
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(single mol. detection of enzymes using enhanced chemiluminescence from
1,2-dioxetanes and water-sol., water-insol. or
partially-water sol. polymers)

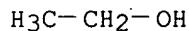
IT 72852-29-0, Polyvinylbenzyltributylammonium chloride
77519-21-2 151346-37-1 151346-38-2
393869-24-4
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(single mol. detection of enzymes using enhanced chemiluminescence from
1,2-dioxetanes and water-sol., water-insol. or
partially-water sol. polymers)

IT 56-81-5, Glycerol, analysis 64-17-5, Ethanol, analysis
67-63-0, Isopropyl alcohol, analysis 71-23-8, Propyl
alcohol, analysis 71-36-3, Butyl alcohol, analysis
75-65-0, tert-Butyl alcohol, analysis 77-86-1, Tris
78-83-1, Isobutyl alcohol, analysis 78-92-2, sec-Butyl
alcohol 102-71-6, Triethanolamine, analysis 107-21-1,
Ethylene glycol, analysis 109-86-4, Ethylene glycol methyl ether
111-42-2, Diethanolamine, analysis 124-68-5,
2-Amino-2-methyl-1-propanol 7447-40-7, Potassium chloride,
analysis 7646-85-7, Zinc chloride, analysis 7647-14-5,
Sodium chloride, analysis 7786-30-3, Magnesium chloride,
analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(enzyme stabilizer; single mol. detection of enzymes using enhanced
chemiluminescence from 1,2-dioxetanes and water-sol.,
water-insol. or partially-water sol. polymers)

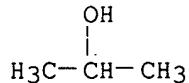
RN 56-81-5 HCPLUS
CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



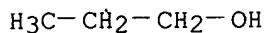
RN 64-17-5 HCPLUS
CN Ethanol (9CI) (CA INDEX NAME)



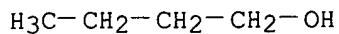
RN 67-63-0 HCPLUS
CN 2-Propanol (9CI) (CA INDEX NAME)



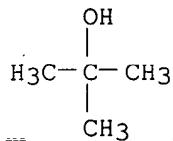
RN 71-23-8 HCPLUS
CN 1-Propanol (9CI) (CA INDEX NAME)



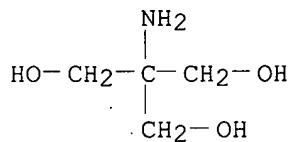
RN 71-36-3 HCAPLUS
 CN 1-Butanol (9CI) (CA INDEX NAME)



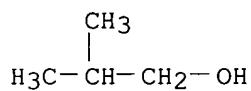
RN 75-65-0 HCAPLUS
 CN 2-Propanol, 2-methyl- (9CI) (CA INDEX NAME)



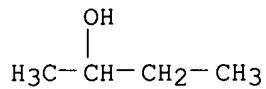
RN 77-86-1 HCAPLUS
 CN 1,3-Propanediol, 2-amino-2-(hydroxymethyl)- (8CI, 9CI) (CA INDEX NAME)



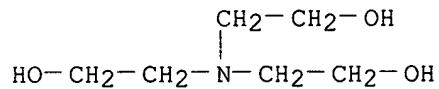
RN 78-83-1 HCAPLUS
 CN 1-Propanol, 2-methyl- (9CI) (CA INDEX NAME)



RN 78-92-2 HCAPLUS
 CN 2-Butanol (9CI) (CA INDEX NAME)



RN 102-71-6 HCAPLUS
 CN Ethanol, 2,2',2'''-nitrilotris- (9CI) (CA INDEX NAME)



RN 107-21-1 HCAPLUS
 CN 1,2-Ethanediol (9CI) (CA INDEX NAME)

HO—CH₂—CH₂—OH

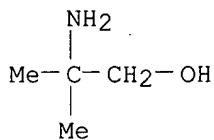
RN 109-86-4 HCAPLUS
 CN Ethanol, 2-methoxy- (8CI, 9CI) (CA INDEX NAME)

HO—CH₂—CH₂—O—CH₃

RN 111-42-2 HCAPLUS
 CN Ethanol, 2,2'-iminobis- (9CI) (CA INDEX NAME)

HO—CH₂—CH₂—NH—CH₂—CH₂—OH

RN 124-68-5 HCAPLUS
 CN 1-Propanol, 2-amino-2-methyl- (8CI, 9CI) (CA INDEX NAME)



RN 7447-40-7 HCAPLUS
 CN Potassium chloride (KCl) (9CI) (CA INDEX NAME)

Cl—K

RN 7646-85-7 HCAPLUS
 CN Zinc chloride (ZnCl₂) (9CI) (CA INDEX NAME)

Cl—Zn—Cl

RN 7647-14-5 HCAPLUS
 CN Sodium chloride (NaCl) (9CI) (CA INDEX NAME)

Cl—Na

RN 7786-30-3 HCAPLUS
 CN Magnesium chloride (MgCl₂) (9CI) (CA INDEX NAME)

Cl—Mg—Cl

IT 9001-08-5, Cholinesterase 9001-78-9
 9031-11-2, .beta.-Galactosidase
 RL: ANT (Analyte); ANST (Analytical study)
 (single mol. detection of enzymes using enhanced chemiluminescence from
 1,2-dioxetanes and water-sol., water-insol. or

partially-water sol. polymers)
 RN 9001-08-5 HCPLUS
 CN Esterase, choline (9CI) (CA INDEX NAME)

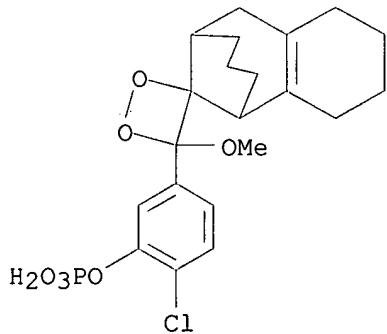
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 9001-78-9 HCPLUS
 CN Phosphatase, alkaline (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 9031-11-2 HCPLUS
 CN Galactosidase, .beta.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 IT 6788-84-7D, 1,2-Dioxetane, derivs. 260791-04-6
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (single mol. detection of enzymes using enhanced chemiluminescence from
 1,2-dioxetanes and water-sol., water-insol. or
 partially-water sol. polymers)
 RN 6788-84-7 HCPLUS
 CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 260791-04-6 HCPLUS
 CN Phenol, 2-chloro-5-(1',2',3',4',5',6',7',8',9',10'-decahydro-4-
 methoxyspiro[1,2-dioxetane-3,11'-[5,9]methanobenzocycloocten]-4-yl)-,
 dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IT 72852-29-0, Polyvinylbenzyltributylammonium chloride
 77519-21-2 151346-37-1 151346-38-2
 393869-24-4
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (single mol. detection of enzymes using enhanced chemiluminescence from
 1,2-dioxetanes and water-sol., water-insol. or
 partially-water sol. polymers)
 RN 72852-29-0 HCPLUS
 CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, homopolymer
 (9CI) (CA INDEX NAME)

CRN 62017-56-5
 CMF C21 H36 N . Cl
 CCI IDS



D1—CH=CH₂

(n-Bu)₃⁺N—CH₂—D1

● Cl⁻

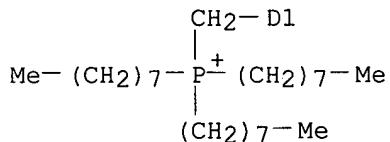
RN 77519-21-2 HCPLUS
 CN Phosphonium, [(ethenylphenyl)methyl]trioctyl-, chloride, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

CRN 77519-20-1
 CMF C33 H60 P . Cl
 CCI IDS



D1—CH=CH₂



● Cl⁻

RN 151346-37-1 HCPLUS
 CN Phosphonium, tributyl[(ethenylphenyl)methyl]-, chloride, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

CRN 42808-25-3
 CMF C21 H36 P . Cl
 CCI IDS



D1-CH=CH₂

(n-Bu)₃⁺P-CH₂-D1

● Cl⁻

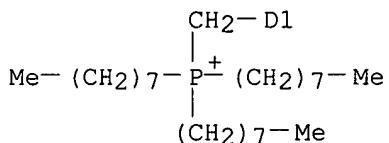
RN 151346-38-2 HCPLUS
 CN Phosphonium, [(ethenylphenyl)methyl]trioctyl-, chloride, polymer with
 tributyl[(ethenylphenyl)methyl]phosphonium chloride (9CI) (CA INDEX NAME)

CM 1

CRN 77519-20-1
 CMF C33 H60 P . Cl
 CCI IDS



D1-CH=CH₂



● Cl⁻

CM 2

CRN 42808-25-3
 CMF C21 H36 P . Cl
 CCI IDS

D1—CH≡CH₂(n-Bu)₃⁺P—CH₂—D1● Cl⁻

RN 393869-24-4 HCAPLUS

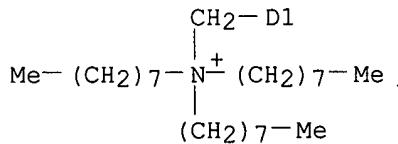
CN Benzenemethanaminium, ar-ethenyl-N,N,N-trioctyl-, chloride, polymer with
N,N,N-tributyl-ar-ethenylbenzenemethanaminium chloride (9CI) (CA INDEX
NAME)

CM 1

CRN 72852-27-8

CMF C33 H60 N . Cl

CCI IDS

D1—CH≡CH₂● Cl⁻

CM 2

CRN 62017-56-5

CMF C21 H36 N . Cl

CCI IDS



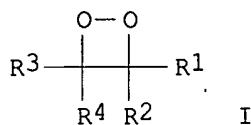
D1—CH=CH₂

(n-Bu)₃⁺N—CH₂—D1

● Cl⁻

L82 ANSWER 2 OF 4 HCPLUS COPYRIGHT 2003 ACS
 AN 2000:175815 HCPLUS
 DN 132:207956
 TI Preparation of chemiluminescent 1,2-dioxetane derivatives containing phosphoryloxyphenyl moiety
 IN Giri, Brij P.
 PA USA
 SO PCT Int. Appl., 69 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07F009-06
 ICS C07D321-00; C07C043-166; C07C043-168; C07C043-178; C07F007-08;
 C07K017-02; G01N033-533
 CC 29-7 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 7, 28
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000014092	A1	20000316	WO 1999-US20590	19990908
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2342979	AA	20000316	CA 1999-2342979	19990908
	AU 9959130	A1	20000327	AU 1999-59130	19990908
	EP 1112274	A1	20010704	EP 1999-946804	19990908
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6461876	B1	20021008	US 2000-643063	20000821
PRAI	US 1998-99693P	P	19980908		
	WO 1999-US20590	W	19990908		
OS	MARPAT	132:207956			
GI					



AB The title compds. I [(a) R1, R2 are each, individually, an active site or when fused together form an active site, and R3 and R4 are each, individually, an active site or when fused together form an active site or (b) R1 has at least two hetero atoms with active site and R3 and R4 are inactive and R2 active], useful as chemiluminescent compds. in assays of enzymes (no data), are prep'd. These **1,2-dioxetanes** have electron donating or withdrawing groups at the four-membered peroxide ring, thus, the **1,2-dioxetane** ring hereof is affected by the added electronic charge.

ST oxetane phosphoryloxyphenyl moiety contg prepn chemiluminescent; chemiluminescent phosphoryloxyphenyl moiety contg **dioxetane** prepn; enzyme assay chemiluminescent phosphoryloxyphenyl moiety contg **dioxetane**

IT Enzymes, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study) (detection; prepn. of chemiluminescent **dioxetane** derivs. for enzyme detection)

IT Luminescence, chemiluminescence

(prepn. of chemiluminescent **dioxetane** derivs. contg. phosphoryloxyphenyl moiety)

IT 260790-97-4P 260790-98-5P 260790-99-6P
260791-00-2P 260791-01-3P 260791-02-4P
260791-03-5P 260791-04-6P 260791-05-7P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of chemiluminescent **dioxetane** derivs. contg. phosphoryloxyphenyl moiety)

IT 67-56-1, Methanol, reactions 75-89-8, 2,2,2-Trifluoroethanol 94-41-7, Benzalacetophenone 99-06-9, 3-Hydroxybenzoic acid, reactions 108-94-1, Cyclohexanone, reactions 122-99-6, 2-Phenoxyethanol 123-72-8, Butyraldehyde 700-58-3, Adamantan-2-one 10025-87-3, Phosphorus oxychloride 18162-48-6, tert-Butyldimethylsilyl chloride 30525-89-4, Paraformaldehyde 34113-69-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of chemiluminescent **dioxetane** derivs. contg. phosphoryloxyphenyl moiety)

IT 2544-00-5P 2682-98-6P 16643-41-7P 19438-10-9P 20098-14-0P
20098-17-3P 21328-39-2P 24133-20-8P 69392-50-3P 99287-98-6P
120687-94-7P 166272-81-7P 179633-60-4P 179633-61-5P 260791-06-8P
260791-07-9P 260791-08-0P 260791-09-1P 260791-10-4P 260791-11-5P
260791-12-6P, Tricyclo[3.3.1.13,7]dec-4-en-2-one 260791-13-7P
260791-14-8P 260791-15-9P 260791-16-0P 260791-17-1P 260791-18-2P
260791-19-3P 260791-20-6P 260791-21-7P 260791-22-8P 260791-23-9P
260791-24-0P 260791-25-1P 260791-26-2P 260791-27-3P 260791-28-4P
260791-29-5P 260791-30-8P 260791-31-9P 260791-32-0P 260791-33-1P
260791-34-2P 260791-35-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of chemiluminescent **dioxetane** derivs. contg. phosphoryloxyphenyl moiety)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Akhavan-Tafti; US 5721370 A 1998 HCPLUS
- (2) Bronstein; US 5112960 A 1992 HCPLUS

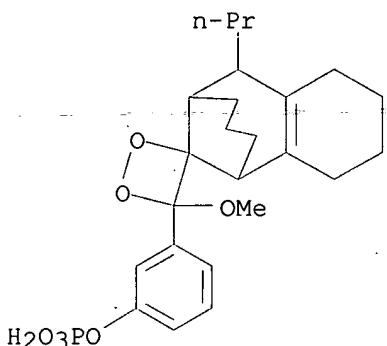
(3) Bronstein; US 5679803 A 1997 HCPLUS
 (4) Brooks; US 5225584 A 1993 HCPLUS
 (5) Schaap; US 5004565 A 1991 HCPLUS
 (6) Schaap; US 5578253 A 1996 HCPLUS

IT 260790-97-4P 260790-98-5P 260790-99-6P
 260791-00-2P 260791-01-3P 260791-02-4P
 260791-03-5P 260791-04-6P 260791-05-7P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (prepn. of chémiluminescent **dioxetane** derivs. contg.
 phosphoryloxyphenyl moiety)

RN 260790-97-4 HCPLUS

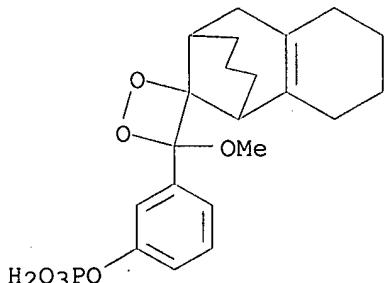
CN Phenol, 3-(1',2',3',4',5',6',7',8',9',10'-decahydro-4-methoxy-10'-propylspiro[1,2-dioxetane-3,11'-[5,9]methanobenzocycloocten]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 260790-98-5 HCPLUS

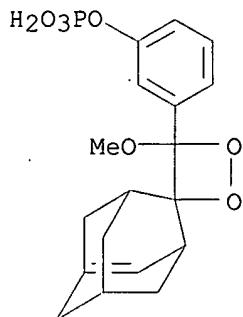
CN Phenol, 3-(1',2',3',4',5',6',7',8',9',10'-decahydro-4-methoxyspiro[1,2-dioxetane-3,11'-[5,9]methanobenzocycloocten]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



2 Na

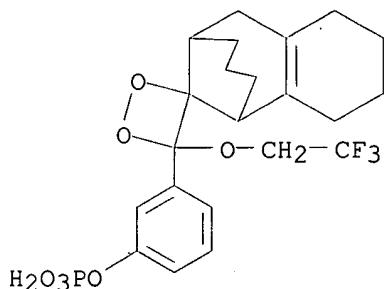
RN 260790-99-6 HCPLUS

CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]dec[4]en]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



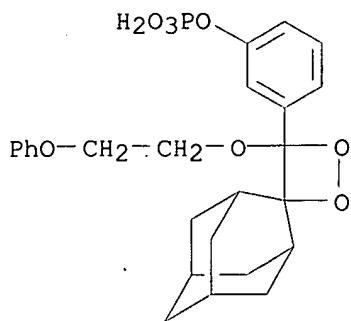
●2 Na

RN 260791-00-2 HCAPLUS
 CN Phenol, 3-[1',2',3',4',5',6',7',8',9',10'-decahydro-4-(2,2,2-trifluoroethoxy)spiro[1,2-dioxetane-3,11'-(5,9)methanobenzocycloocten]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

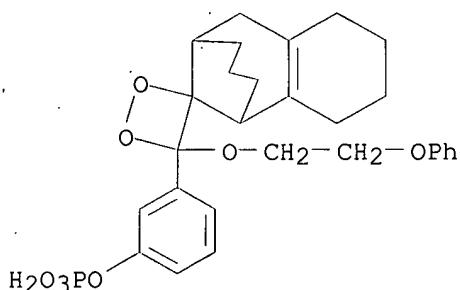
RN 260791-01-3 HCAPLUS
 CN Phenol, 3-[4-(2-phenoxyethoxy)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decen]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 260791-02-4 HCAPLUS

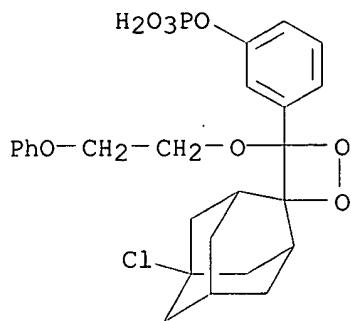
CN Phenol, 3-[1',2',3',4',5',6',7',8',9',10'-decahydro-4-(2-phenoxyethoxy)spiro[1,2-dioxetane-3,11'-[5,9]methanobenzocycloocten]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

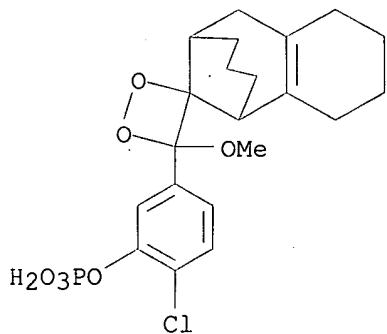
RN 260791-03-5 HCAPLUS

CN Phenol, 3-[5'-chloro-4-(2-phenoxyethoxy)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decen]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



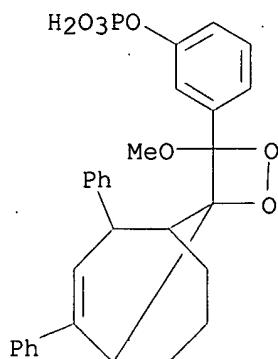
●2 Na

RN 260791-04-6 HCAPLUS
 CN Phenol, 2-chloro-5-(1',2',3',4',5',6',7',8',9',10'-decahydro-4-methoxyspiro[1,2-dioxetane-3,11'-[5,9]methanobenzocycloocten]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 260791-05-7 HCAPLUS
 CN Phenol, 3-(4'-methoxy-2,4-diphenylspiro[bicyclo[3.3.1]non-2-ene-9,3'-[1,2]dioxetan]-4'-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

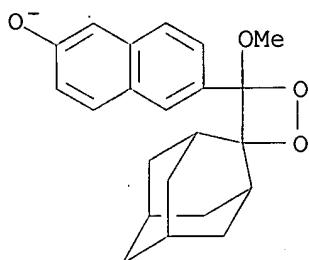


● 2 Na

L82 ANSWER 3 OF 4 HCPLUS COPYRIGHT 2003 ACS
 AN 1988:423007 HCPLUS
 DN 109:23007
 TI Chemical and enzymic triggering of 1,2-dioxetanes. 2.
 Fluoride-induced chemiluminescence from tert-butyldimethylsilyloxy-substituted dioxetanes
 AU Schaap, A. P.; Chen, T. S.; Handley, R. S.; DeSilva, R.; Giri, B. P.
 CS Dep. Chem., Wayne State Univ., Detroit, MI, USA
 SO Report (1987), TR-2-ONR, TR-3; Order No. AD-A178500/5/GAR, 11 pp. Avail.: NTIS
 From: Gov. Rep. Announce. Index (U. S.) 1987, 87(13), Abstr. No. 727,001
 DT Report
 LA English
 CC 29-6 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 22
 AB Thermally stable 1,2-dioxetanes bearing tert-butyldimethylsilyloxyaryl groups were prep'd. Reaction of these dioxetanes with fluoride ion at ambient temp. in Me cyanate and DMSO generates chemiluminescence with efficiencies up to 25%.
 ST dioxetane butyldimethylsilyloxyaryl chemiluminescence fluoride induced
 IT Luminescence, chemi-
 (of butyldimethylsilyloxyaryl dioxetanes, fluoride-induced)
 IT 6788-84-7D, 1,2-Dioxetane, butyldimethylsilyloxyaryl-substituted
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (fluoride-induced chemiluminescence from)
 IT 16984-48-8, Fluoride ion, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with butyldimethylsilyloxyaryl dioxetanes, chemiluminescence from)
 IT 6788-84-7D, 1,2-Dioxetane, butyldimethylsilyloxyaryl-substituted
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (fluoride-induced chemiluminescence from)
 RN 6788-84-7 HCPLUS
 CN 1,2-Dioxetane (6CI, 8CI, 9CI) . (CA INDEX NAME)

O—O

L82 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS
AN 1987:529703 HCAPLUS
DN 107:129703
TI Chemical and enzymatic triggering of 1,2-dioxetanes. 1: aryl esterase-catalyzed chemiluminescence from a naphthyl acetate-substituted dioxetane
AU Schaap, A. Paul; Handley, Richard S.; Giri, Brij P.
CS Dep. Chem., Wayne State Univ., Detroit, MI, 48202, USA
SO Tetrahedron Letters (1987), 28(9), 935-8
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English
CC 7-3 (Enzymes)
AB A thermally stable 1,2-dioxetane bearing a naphthyl acetate group was enzymically cleaved in aq. buffer to generate chemiluminescence at ambient temp.
ST aryl esterase dioxetane hydrolysis chemiluminescence
IT Luminescence, chemi-
 (aryl esterase- and base-catalyzed, from dioxetanes)
IT 9032-73-9, Aryl esterase
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dioxetane hydrolysis by, chemiluminescence from)
IT 110347-75-6 110347-76-7
 RL: FORM (Formation, nonpreparative)
 (formation of, in dioxetane enzymic hydrolysis by aryl esterase)
IT 110347-70-1 110347-71-2 110371-06-7
 RL: PROC (Process)
 (photooxygenation of, in presence of polymer-bound Rose Bengal)
IT 110347-73-4P 110347-74-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and aryl esterase- or base-catalyzed chemiluminescence from)
IT 110347-72-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and thermal decompn. of)
IT 110347-75-6
 RL: FORM (Formation, nonpreparative)
 (formation of, in dioxetane enzymic hydrolysis by aryl esterase)
RN 110347-75-6 HCAPLUS
CN 2-Naphthalenol, 6-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, ion(1-) (9CI) (CA INDEX NAME)

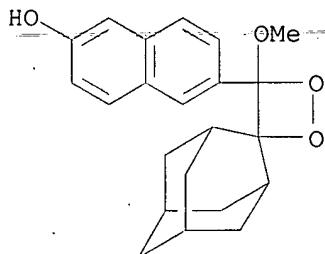


IT 110347-73-4P 110347-74-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and aryl esterase- or base-catalyzed chemiluminescence from)

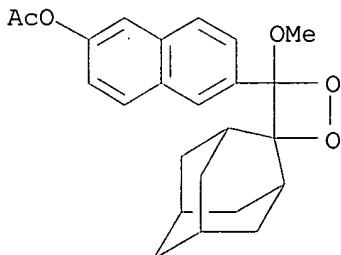
RN 110347-73-4 HCPLUS

CN 2-Naphthalenol, 6-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)- (9CI) (CA INDEX NAME)



RN 110347-74-5 HCPLUS

CN 2-Naphthalenol, 6-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, acetate (9CI) (CA INDEX NAME)

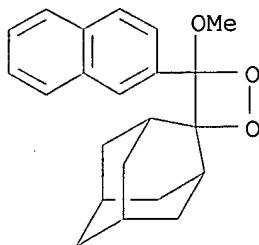


IT 110347-72-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and thermal decompn. of)

RN 110347-72-3 HCPLUS

CN Spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane], 4-methoxy-4-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



=> d 181 all hitstr tot

L81 ANSWER 1 OF 7 HCPLUS COPYRIGHT 2003 ACS

AN 2002:716965 HCPLUS

DN 137:244282

TI Quant-screen chemiluminescent assays for cells

IN Olesen, Corinne E. M.; Yan, Yu-xin; Bronstein, Irena Y.

PA USA

SO U.S. Pat. Appl. Publ., 29 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM G01N021-76

NCL 436172000

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 7, 13

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2002132364	A1	20020919	US 2001-756209	20010109
PRAI US 2001-756209		20010109		

OS MARPAT 137:244282

AB Chemiluminescent endogenous enzyme assays are disclosed which provide for the rapid, simple, and sensitive quantitation of cells directly in microwell cultures by the measurement of endogenous enzyme activity. These endogenous enzyme assays provide homogeneous chemiluminescent formats for measuring cell proliferation, growth inhibition, cell adhesion, cell migration, and cell no. quantitation and normalization. Methods and kits employing such assays are also provided. A Quant-Screen mammalian reaction buffer contg. 150 mM sodium phosphate, pH 5.5, 30 mM EDTA, 0.3 % Triton X-1000, 2 % sodium dodecylbenzenesulfonate, 0.6 mM Glucon, 1 M diethanolamine, pH 9.5, as accelerator, and 30 % Sapphire-II was used in growth stimulation and growth inhibition assays with 3T3 cells.

ST enzyme quant screen chemiluminescent assay cell; mammalian cell quant screen chemiluminescent assay

IT Animal cell line

(3T3; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Animal cell line

(K562; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Blood serum

(calf; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Yeast

(cells; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Cytotoxicity

(detection of; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Enzymes, analysis
RL: ANT (Analyte); ANST (Analytical study)
(endogenous; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Culture media
(enrichment; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Animal cell
(mammalian; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Cell division
(measurement of inhibition of; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Adhesion, biological
Cell migration
Cell proliferation
(measurement of; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Onium compounds
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polymeric quaternary salts, as enhancers; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Animal tissue culture
Buffers
Cell
Chemiluminescence spectroscopy
Culture media
Cytolysis
Fluorescent substances
High throughput screening
Human
Luminescence spectroscopy
Luminescent substances
Microtiter plates
Saccharomyces cerevisiae
Schizosaccharomyces pombe
Test kits
(quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT Albumins, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(serum, as enhancers; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 9017-80-5, Polyvinylbenzyltrimethyl ammonium chloride
72852-29-0, Polyvinylbenzyltributylammonium chloride
135781-07-6 151346-37-1, Polyvinylbenzyltributylphosphonium chloride 459811-21-3 460090-23-7
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(as enhancer; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 50-76-0, Actinomycin D
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(in yeast growth inhibition studies; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 60-00-4, EDTA, uses 111-42-2, Diethanolamine, uses 7632-05-5,
Sodium Phosphate 9002-93-1, Triton X-100
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(mammalian cell reaction buffer contg.; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 9001-92-7, Protease
RL: ANT (Analyte); ANST (Analytical study)

(protease; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 9001-34-7, Galactosidase 9001-45-0, Glucuronidase 9001-77-8, Acid phosphatase 9001-78-9 9013-79-0, Esterase 9033-06-1, Glucosidase
 RL: ANT (Analyte); ANST (Analytical study)
 (quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 550-82-3, Alamar Blue 6788-84-7D, 1,2-Dioxetane,
 compds. 124951-96-8 142849-53-4 160081-62-9
 189942-84-5, ADP-Star 201037-11-8, Glucon
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 143-74-8, Phenol red
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 62996-74-1, Staurosporine
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 56-81-5, Glycerol, uses 124-68-5, 2-Amino-2-methyl-1-propanol 7786-30-3, Magnesium chloride (MgCl₂), uses 11024-24-1, Digitonin 25155-30-0, Sodium dodecylbenzenesulfonate
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (yeast reaction buffer contg.; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

IT 9017-80-5, Polyvinylbenzyltrimethyl ammonium chloride
 72852-29-0, Polyvinylbenzyltributylammonium chloride
 135781-07-6 151346-37-1, Polyvinylbenzyltributylphosphonium chloride
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (as enhancer; quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

RN 9017-80-5 HCPLUS

CN Benzenemethanaminium, ar-ethenyl-N,N,N-trimethyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 26616-35-3
 CMF C12 H18 N . Cl
 CCI IDS

D1-CH=CH₂Me₃⁺N-CH₂-D1

Cl-

RN 72852-29-0 HCAPLUS
 CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, homopolymer
 (9CI) (CA INDEX NAME)

CM 1

CRN 62017-56-5
 CMF C21 H36 N . Cl
 CCI IDS



D1—CH=CH₂

(n-Bu)₃N⁺—CH₂—D1

● Cl⁻

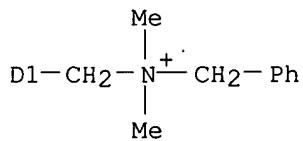
RN 135781-07-6 HCAPLUS
 CN Benzenemethanaminium, ar-ethenyl-N,N-dimethyl-N-(phenylmethyl)-, chloride,
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 62017-62-3
 CMF C18 H22 N . Cl
 CCI IDS



D1—CH=CH₂



Cl⁻

RN 151346-37-1 HCAPLUS

CN Phosphonium, tributyl[(ethenylphenyl)methyl]-, chloride, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

CRN 42808-25-3
 CMF C21 H36 P . Cl
 CCI IDS



D1—CH=CH₂

(n-Bu)₃⁺P—CH₂—D1

● Cl⁻

IT 111-42-2, Diethanolamine, uses
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (mammalian cell reaction buffer contg.; quant-screen chemiluminescent
 assays for cells by measuring endogenous enzymes)
 RN 111-42-2 HCPLUS
 CN Ethanol, 2,2'-iminobis- (9CI) (CA INDEX NAME)

HO—CH₂—CH₂—NH—CH₂—CH₂—OH

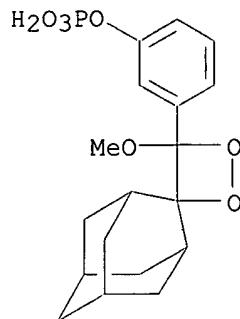
IT 9001-78-9
 RL: ANT (Analyte); ANST (Analytical study)
 (quant-screen chemiluminescent assays for cells by measuring endogenous
 enzymes)
 RN 9001-78-9 HCPLUS
 CN Phosphatase, alkaline (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 IT 6788-84-7D, 1,2-Dioxetane, compds. 124951-96-8
 142849-53-4 160081-62-9 189942-84-5, ADP-Star
 201037-11-8, Glucon
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (quant-screen chemiluminescent assays for cells by measuring endogenous
 enzymes)
 RN 6788-84-7 HCPLUS
 CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 124951-96-8 HCPLUS

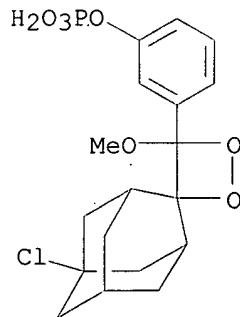
CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 142849-53-4 HCAPLUS

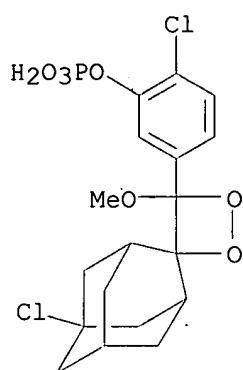
CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 160081-62-9 HCAPLUS

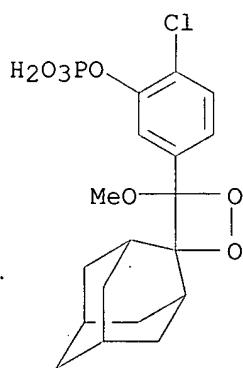
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 189942-84-5 HCPLUS

CN Phenol, 2-chloro-5-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decyl]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

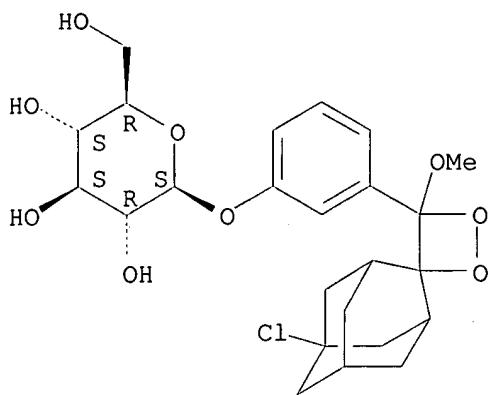


●2 Na

RN 201037-11-8 HCPLUS

CN .beta.-D-Glucopyranoside, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decyl]-4-yl)phenyl (9CI) (CA INDEX NAME)

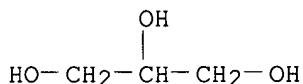
Absolute stereochemistry.



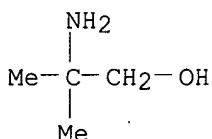
IT 56-81-5, Glycerol, uses 124-68-5, 2-Amino-2-methyl-1-propanol 7786-30-3, Magnesium chloride (MgCl₂), uses
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (yeast reaction buffer contg.; quant-screen chemiluminescent assays for
 cells by measuring endogenous enzymes)

RN 56-81-5 HCAPLUS

CN 1,2,3-Propanetriol (9CI) (CA INDEX NAME)



RN 124-68-5 HCAPLUS
 CN 1-Propanol, 2-amino-2-methyl- (8CI, 9CI) (CA INDEX NAME)



RN 7786-30-3 HCAPLUS
 CN Magnesium chloride (MgCl₂) (9CI) (CA INDEX NAME)



L81 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2003 ACS
 AN 1997:505750 HCAPLUS
 DN 127:119320
 TI Multiple reporter gene assay
 IN Bronstein, Irena Y.; Fortin, John J.; Martin, Chris S.; Voyta, John C.
 PA Tropix, Inc., USA
 SO PCT Int. Appl., 41 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12Q001-68
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 3, 7

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9724460	A1	19970710	WO 1996-US20650	19961223
	W: AU, CA, JP RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2241760	AA	19970710	CA 1996-2241760	19961223
	AU 9713502	A1	19970728	AU 1997-13502	19961223
	AU 732044	B2	20010412		
	EP 874913	A1	19981104	EP 1996-945044	19961223
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000513563	T2	20001017	JP 1997-524534	19961223
PRAI	US 1995-579787	A	19951228		
	WO 1996-US20650	W	19961223		
OS	MARPAT 127:119320				
AB	A nonisotopic method of measuring the activity of at least two reporter gene products in an aliquot of a sample ext. is disclosed. The method is esp. useful for measuring transcriptional activity of cells transfected with >1 reporter gene. The activities of a first and second reporter enzyme (selected from luciferase, .beta.-galactosidase , .beta.-glucuronidase , alk. phosphatase , or carboxyl esterase) are quantified by measuring the light signal produced by degrdn. of a first substrate by the first reporter enzyme and the light signal produced by the degrdn. of a second substrate by a second reporter enzyme. Both quantifications are sequentially performed on the same aliquot of sample ext.				
ST	cell multiple reporter gene product detn; enzyme reporter multiple detn transcription; dioxetane substrate reporter enzyme chemiluminescence detn; transfection cell multiple reporter gene assay				
IT	Gene	(expression; multiple reporter gene assay)			
IT	Animal cell	(mammalian; multiple reporter gene assay)			
IT	Cell	Chemiluminescence spectroscopy Test kits Transcription, genetic Transformation, genetic (multiple reporter gene assay)			
IT	Enzymes , analysis	Reporter gene RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study) (multiple reporter gene assay)			
IT	Onium compounds	RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (quaternary, polymers ; multiple reporter gene assay)			
IT	Albumins, uses	RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (serum; multiple reporter gene assay)			
IT	Polymers , uses	RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (water-sol.; multiple reporter gene assay)			
IT	9001-45-0, .beta.-Glucuronidase 9001-78-9	9014-00-0,			
	Luciferase 9016-18-6, Carboxyl esterase	9027-41-2,	Hydrolase		
	9031-11-2, .beta.-Galactosidase				
	RL: ANT (Analyte); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study) (multiple reporter gene assay)				
IT	9017-80-5, Polyvinylbenzyltrimethylammonium chloride	62017-62-3			

151346-37-1, Polyvinylbenzyltributylphosphonium chloride
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(multiple reporter gene assay)

IT 2591-17-5, Luciferin 6788-84-7D, Dioxetane, enzyme
substrates contg. 142849-71-6, Galacton 181285-38-1,
Galacton-Plus 201037-71-0
RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study); PROC (Process); USES (Uses)
(multiple reporter gene assay)

IT 111-42-2, Diethanolamine, uses
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(soln. contg.; multiple reporter gene assay)

IT 72852-29-0, Sapphire II
RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study); PROC (Process); USES (Uses)
(soln. contg.; multiple reporter gene assay)

IT 9001-78-9 9031-11-2, .beta.-
Galactosidase
RL: ANT (Analyte); BAC (Biological activity or effector, except adverse);
BSU (Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study)
(multiple reporter gene assay)

RN 9001-78-9 HCPLUS

CN Phosphatase, alkaline (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9031-11-2 HCPLUS

CN Galactosidase, .beta.- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9017-80-5, Polyvinylbenzyltrimethylammonium chloride
151346-37-1, Polyvinylbenzyltributylphosphonium chloride
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(multiple reporter gene assay)

RN 9017-80-5 HCPLUS

CN Benzenemethanaminium, ar-ethenyl-N,N,N-trimethyl-, chloride, homopolymer
(9CI) (CA INDEX NAME)

CM 1

CRN 26616-35-3

CMF C12 H18 N . Cl

CCI IDS



D1—CH=CH₂

Me₃⁺N—CH₂—D1

● Cl⁻

RN 151346-37-1 HCPLUS

CN Phosphonium, tributyl[(ethenylphenyl)methyl]-, chloride, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 42808-25-3

CMF C21 H36 P . Cl

CCI IDS



D1—CH=CH₂

(n-Bu)₃⁺P—CH₂—D1

● Cl⁻

IT 6788-84-7D, Dioxetane, enzyme substrates contg.

142849-71-6, Galacton 181285-38-1, Galacton-Plus
201037-71-0

RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study); PROC (Process); USES (Uses)
(multiple reporter gene assay)

RN 6788-84-7 HCPLUS

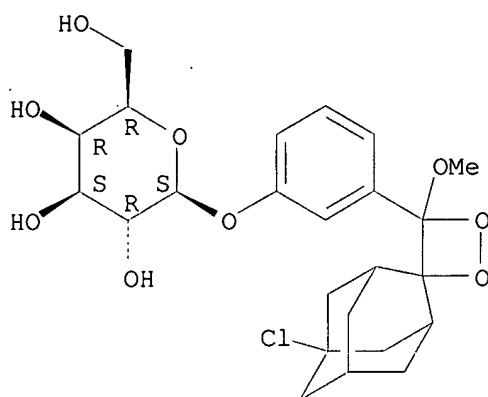
CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 142849-71-6 HCAPLUS

CN .beta.-D-Galactopyranoside, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

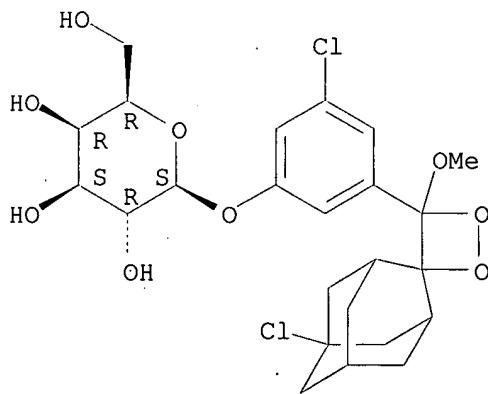
Absolute stereochemistry.



RN 181285-38-1 HCAPLUS

CN .beta.-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

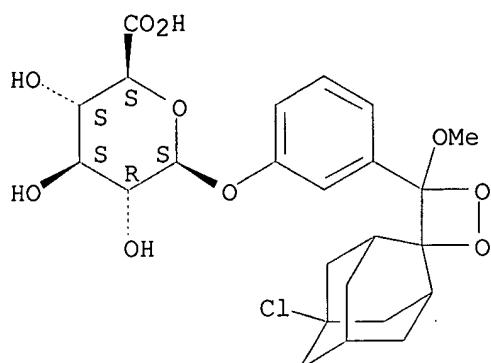
Absolute stereochemistry.



RN 201037-71-0 HCAPLUS

CN .beta.-D-Glucopyranosiduronic acid, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 111-42-2, Diethanolamine, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(soln. contg.; multiple reporter gene assay)

RN 111-42-2 HCAPLUS

CN Ethanol, 2,2'-iminobis- (9CI) (CA INDEX NAME)



IT 72852-29-0, Sapphire II

RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study); PROC (Process); USES (Uses)
(soln. contg.; multiple reporter gene assay)

RN 72852-29-0 HCAPLUS

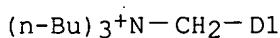
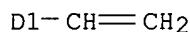
CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, homopolymer
(9CI) (CA INDEX NAME)

CM 1

CRN 62017-56-5

CMF C21 H36 N . Cl

CCI IDS



DN 126:206907
 TI Di-substituted 1,2-dioxetane compounds having increased water solubility and assay compositions
 IN Akhavan-Tafti, Hashem; De Silva, Renuka; Schaap, Paul A.
 PA Board of Governors of Wayne State University, USA; Lumigen, Inc.
 SO Eur. Pat. Appl., 25 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM C07F009-655
 ICS G01N033-533; C07D321-00; C07F009-12; C07C069-708
 CC 79-2 (Inorganic Analytical Chemistry)
 Section cross-reference(s): 9, 28, 29

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 757052	A1	19970205	EP 1996-112386	19960731
	EP 757052	B1	20030219		
	R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	US 5777135	A	19980707	US 1995-509305	19950731
	IL 118934	A1	20000131	IL 1996-118934	19960724
	CA 2182325	AA	19970201	CA 1996-2182325	19960730
	AU 9660818	A1	19970206	AU 1996-60818	19960730
	AU 703632	B2	19990325		
	JP 09249659	A2	19970922	JP 1996-216922	19960731
	JP 3290592	B2	20020610		
	AT 232876	E	20030315	AT 1996-112386	19960731
	US 5804103	A	19980908	US 1997-842728	19970416
	AU 9889605	A1	19990211	AU 1998-89605	19981029
	AU 719065	B2	20000504		
PRAI	US 1995-509305	A	19950731		
	AU 1996-60818	A3	19960730		

OS MARPAT 126:206907

AB Stable, enzymically triggered chemiluminescent, 1,2-dioxetanes with improved water solv. are provided. Dioxetanes further substituted with two or more water-solubilizing groups disposed on the dioxetane structure provide superior performance by eliminating the problem of reagent carryover when used in assays performed on capsule chem. anal. systems. Compns. comprising a dioxetane with two or more water-solubilizing groups, a nonpolymeric cationic surfactant enhancer and optionally a fluorescer, for providing enhanced chemiluminescence are also provided.

ST water soluble chemiluminescent dioxetane reagent

IT Luminescence, chemiluminescence

(prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

IT 151346-37-1, Poly(vinylbenzyltributylphosphonium chloride)
 163342-81-2, 1-Trioctylphosphoniummethyl-4-tributylphosphoniummethylbenzene dichloride

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (enhancer; prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

IT 124-68-5, 2-Amino-2-methyl-1-propanol 2321-07-5, Fluorescein
 6358-69-6, Pyranine 7439-95-4, Magnesium, uses 9002-93-1, Triton X-100
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

IT 187655-25-0P, [4-((3,3-Biscarboethoxy)propoxy)-4-(3-phosphoryloxyphenyl)]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane], tetrasodium salt 187655-27-2P,
 [4-(3-Carboxypropoxy)-4-(3-phosphoryloxyphenyl)]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane]

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

IT 67-56-1, Methanol, reactions 99-06-9, 3-Hydroxybenzoic acid, reactions 105-53-3, Diethyl malonate 107-07-3, 2-Chloroethanol, reactions 109-78-4, 2-Cyanoethanol 110-86-1, Pyridine, reactions 121-44-8, reactions 141-52-6, Sodium ethoxide 143-33-9, Sodium cyanide (NaCN) 429-41-4, Tetrabutylammonium fluoride 538-75-0, DCC 627-30-5, 3-Chloro-1-propanol 700-58-3, Adamantanone 1122-58-3, DMAP 1310-73-2, Sodium hydroxide (NaOH), reactions 7681-82-5, Sodium iodide (NaI), reactions 7705-07-9, Titanium chloride (TiCl₃), reactions 7782-44-7, Oxygen, reactions 10025-87-3, Phosphorus chloride oxide (PCl₃O) 11121-48-5D, Rose Bengal, polymer bound 16853-85-3 18162-48-6, tert-Butyldimethylsilyl chloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

IT 133258-97-6P, [(2-Chloroethoxy)-(3-tert-butyldimethylsilyloxyphenyl)methylene]tricyclo[3.3.1.13,7]decane 133259-04-8P, 2-Chloroethyl-3-hydroxybenzoate 133259-05-9P, 2-Chloroethyl-3-tert-butyldimethylsilyloxybenzoate 133259-06-0P, [(2-Chloroethoxy)-(3-hydroxyphenyl)methylene]tricyclo[3.3.1.13,7]decane 133259-07-1P, [(3-Hydroxyphenyl)-(2-iodoethoxy)methylene]tricyclo[3.3.1.13,7]decane 142149-09-5P, 3-Chloropropyl-3-hydroxybenzoate 142149-11-9P, [3-Chloropropyl-3-(tert-butyldimethylsilyloxyphenyl)-(3-chloropropoxy)methylene]tricyclo[3.3.1.13,7]decane 142149-12-0P 142149-13-1P, [(3-Cyanopropoxy)-(3-hydroxyphenyl)methylene]tricyclo[3.3.1.13,7]decane 142149-14-2P, [(3-Carboxypropoxy)-(3-hydroxyphenyl)methylene]tricyclo[3.3.1.13,7]decane 187655-28-3P, [(3,3-Biscarboethoxy)propoxy)-(3-hydroxyphenyl)methylene]tricyclo[3.3.1.13,7]decane 187655-29-4P, [(3,3-Biscarboethoxy)propoxy)-(3-(bis-(2-cyanoethyl)phosphoryloxy)phenyl)methylene]tricyclo[3.3.1.13,7]decane 187655-30-7P, [(3,3-Biscarboethoxy)propoxy)-(3-phosphoryloxyphenyl)methylene]tricyclo[3.3.1.13,7]decane, tetrasodium salt 187655-31-8P, 3-Chloropropyl-3-(tert-butyldimethylsilyloxy)benzoate 187655-32-9P, [(3-Carbomethoxypropoxy)-(3-hydroxyphenyl)methylene]tricyclo[3.3.1.13,7]decane 187655-34-1P, [(3-Carboxypropoxy)-(3-phosphoryloxyphenyl)methylene]tricyclo[3.3.1.13,7]decane, trisodium salt 187879-94-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

IT 151346-37-1, Poly(vinylbenzyltributylphosphonium chloride)
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (enhancer; prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

RN 151346-37-1 HCPLUS

CN Phosphonium, tributyl[(ethenylphenyl)methyl]-, chloride, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

CRN 42808-25-3
 CMF C21 H36 P . Cl
 CCI IDS



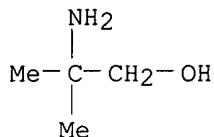
D1-CH=CH2

(n-Bu)3+P-CH2-D1

● Cl-

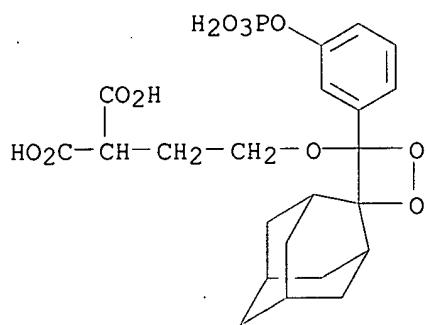
IT 124-68-5, 2-Amino-2-methyl-1-propanol
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (prepn. of water sol. chemiluminescent di-substituted dioxetane
 reagents)

RN 124-68-5 HCAPLUS
 CN 1-Propanol, 2-amino-2-methyl- (8CI, 9CI) (CA INDEX NAME)



IT 187655-25-0P, [4-((3,3-Biscarboethoxy)propoxy)-4-(3-phosphoryloxyphenyl)]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane], tetrasodium salt 187655-27-2P,
 [4-(3-Carboxypropoxy)-4-(3-phosphoryloxyphenyl)]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane]
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (prepn. of water sol. chemiluminescent di-substituted dioxetane
 reagents)

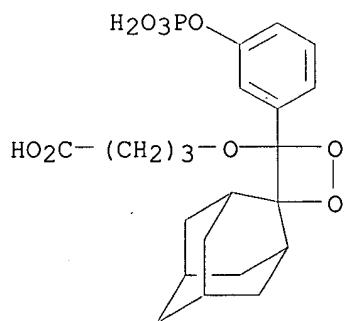
RN 187655-25-0 HCAPLUS
 CN Propanedioic acid, [2-[[4-[3-(phosphonoxy)phenyl]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane]-4-yl]oxy]ethyl]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 187655-27-2 HCPLUS

CN Butanoic acid, 4-[[4-[3-(phosphonooxy)phenyl]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decyl]oxy]-, trisodium salt (9CI) (CA INDEX NAME)



● 3 Na

IT 67-56-1, Methanol, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of water sol. chemiluminescent di-substituted dioxetane reagents)

RN 67-56-1 HCPLUS

CN Methanol (8CI, 9CI) (CA INDEX NAME)

H3C-OH

L81 ANSWER 4 OF 7 HCPLUS COPYRIGHT 2003 ACS

AN 1997:204102 HCPLUS

DN 126:183507

TI Improved capsule chemistry analytical methods employing dioxetane chemiluminescence

IN Adolfsen, Robert H.; Akhavan-Tafti, Hashem; De Silva, Renuka; Schaap, Paul A.

PA Board of Governors of Wayne State University, USA; Bayer A.-G.

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G01N033-52

ICS G01N033-58

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 15, 28

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 757248	A2	19970205	EP 1996-112385	19960731
	EP 757248	A3	19970723		
	EP 757248	B1	20010523		
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
	US 5631167	A	19970520	US 1995-509692	19950731
	IL 118935	A1	20001121	IL 1996-118935	19960724
	CA 2182326	AA	19970201	CA 1996-2182326	19960730
	AU 9660817	A1	19970206	AU 1996-60817	19960730
	AU 719699	B2	20000518		
	JP 09184810	A2	19970715	JP 1996-216921	19960731
	ES 2159333	T3	20011001	ES 1996-112385	19960731
PRAI	US 1995-509692	A	19950731		

OS MARPAT 126:183507

AB Improved assay methods utilizing stable, enzymically triggered chemiluminescent 1,2-dioxetanes with improved water solv. are provided. Assays are performed by a capsule chem. anal. assay method wherein fluid capsules comprising discrete aq. segments contg. either a chemiluminescent dioxetane reagent or an activating agent sepd. by an oil-based isolating fluid are flowed through a conduit and subsequently reacted to produce light. The improvement comprises using a dioxetane substituted with two or more water-solubilizing groups disposed on the dioxetane structure to provide the chemiluminescence. Compns. comprising such a dioxetane, a non-polymeric surfactant enhancer, and optionally a fluorescer, provide enhanced chemiluminescence and eliminate the problem of reagent carryover when used in assays performed on capsule chem. anal. systems.

ST capsule chem analysis chemiluminescence dioxetane prepn

IT Antibodies

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(alk. phosphatase conjugates; improved capsule
chem. anal. methods using dioxetane chemiluminescence)

IT Surfactants

(cationic; improved capsule chem. anal. methods using dioxetane
chemiluminescence)

IT Capsules

Chemiluminescence spectroscopy

Fluorescent substances

Immunoassay

(improved capsule chem. anal. methods using dioxetane
chemiluminescence)

IT Enzymes, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(improved capsule chem. anal. methods using dioxetane
chemiluminescence)

IT 9002-71-5, TSH

RL: ANT (Analyte); ANST (Analytical study)
(improved capsule chem. anal. methods using dioxetane
chemiluminescence)

IT 9001-78-9

RL: ANT (Analyte); BAC (Biological activity or effector, except adverse);
BSU (Biological study, unclassified); ANST (Analytical study); BIOL

(Biological study)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

IT 2321-07-5, Fluorescein 6358-69-6, Pyranine **142849-53-4**, CSPD
151346-37-1 **151346-38-2**
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

IT **6788-84-7DP**, 1,2-Dioxetane, derivs. **187655-25-0P**
187655-26-1P **187655-27-2P**
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

IT **124-68-5**, 2-Amino-2-methyl-1-propanol 9002-93-1, Triton X-100
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

IT **67-56-1**, Methanol, reactions 99-06-9, 3-Hydroxybenzoic acid,
 reactions 105-53-3, Diethyl malonate 107-07-3, 2-Chloroethanol,
 reactions 109-78-4, 2-Cyanoethanol 143-33-9, Sodium cyanide
 627-30-5, 3-Chloro-1-propanol 700-58-3, Adamantanone 10025-87-3,
 Phosphoric trichloride 18162-48-6, tert-Butyldimethylsilyl chloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

IT 133258-97-6P 133259-04-8P, 2-Chloroethyl-3-hydroxybenzoate
 133259-05-9P 133259-06-0P 133259-07-1P 142149-09-5P 142149-11-9P
 142149-12-0P 142149-13-1P 142149-14-2P 187655-28-3P 187655-29-4P
 187655-30-7P 187655-31-8P 187655-32-9P 187655-33-0P 187655-34-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

IT **9001-78-9**
 RL: ANT (Analyte); BAC (Biological activity or effector, except adverse);
 BSU (Biological study, unclassified); ANST (Analytical study); BIOL
 (Biological study)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

RN 9001-78-9 HCPLUS

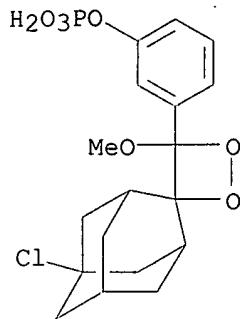
CN Phosphatase, alkaline (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **142849-53-4**, CSPD **151346-37-1** **151346-38-2**
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

RN 142849-53-4 HCPLUS

CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-
 tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt
 (9CI) (CA INDEX NAME)



●2 Na

RN 151346-37-1 HCPLUS
 CN Phosphonium, tributyl[(ethenylphenyl)methyl]-, chloride, homopolymer (9CI)
 (CA INDEX NAME)

CM 1

CRN 42808-25-3
 CMF C21 H36 P . Cl
 CCI IDS

D1—CH=CH₂(n-Bu)₃⁺P—CH₂—D1● Cl⁻

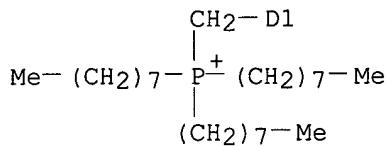
RN 151346-38-2 HCPLUS
 CN Phosphonium, [(ethenylphenyl)methyl]trioctyl-, chloride, polymer with
 tributyl[(ethenylphenyl)methyl]phosphonium chloride (9CI) (CA INDEX NAME)

CM 1

CRN 77519-20-1
 CMF C33 H60 P . Cl
 CCI IDS



D1—CH=CH₂



● Cl⁻

CM 2

CRN 42808-25-3
 CMF C21 H36 P . Cl
 CCI IDS



D1—CH=CH₂

(n-Bu)₃⁺P—CH₂—D1

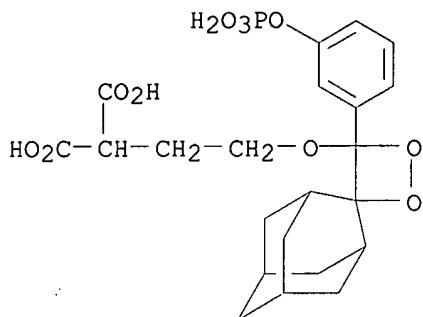
● Cl⁻

IT 6788-84-7DP, 1,2-Dioxetane, derivs. 187655-25-0P
 187655-26-1P 187655-27-2P
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST
 (Analytical study); PREP (Preparation); USES (Uses)
 (improved capsule chem. anal. methods using dioxetane
 chemiluminescence)
 RN 6788-84-7 HCPLUS
 CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 187655-25-0 HCAPLUS

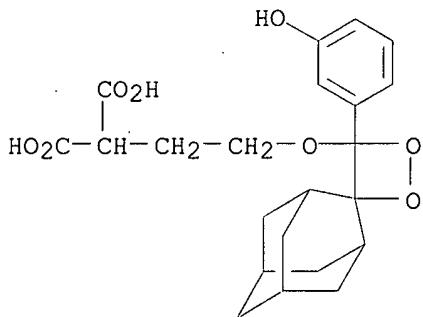
CN Propanedioic acid, [2-[[4-[3-(phosphonoxy)phenyl]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]oxy]ethyl]-, tetrasodium salt (9CI) (CA INDEX NAME)



● 4 Na

RN 187655-26-1 HCAPLUS

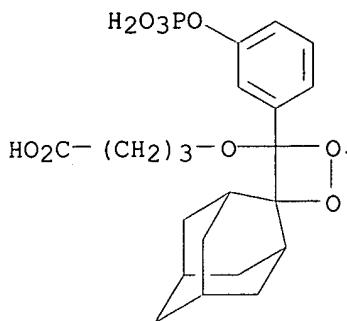
CN Propanedioic acid, [2-[[4-(3-hydroxyphenyl)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]oxy]ethyl]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 187655-27-2 HCAPLUS

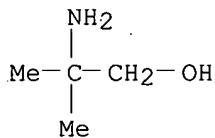
CN Butanoic acid, 4-[[4-[3-(phosphonoxy)phenyl]spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]oxy]-, trisodium salt (9CI) (CA INDEX NAME)



● 3 Na

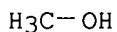
IT 124-68-5, 2-Amino-2-methyl-1-propanol
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

RN 124-68-5 HCPLUS
 CN 1-Propanol, 2-amino-2-methyl- (8CI, 9CI) (CA INDEX NAME)



IT 67-56-1, Methanol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (improved capsule chem. anal. methods using **dioxetane**
 chemiluminescence)

RN 67-56-1 HCPLUS
 CN Methanol (8CI, 9CI) (CA INDEX NAME)



L81 ANSWER 5 OF 7 HCPLUS COPYRIGHT 2003 ACS
 AN 1996:546523 HCPLUS
 DN 125:269847
 TI Enhancement of chemiluminescent assays
 IN Bronstein, Irena Y.; Edwards, Brooks; Voyta, John C.
 PA Tropix, Inc., USA
 SO U.S., 21 pp., Cont.-in-part of U.S. Ser. No. 959,531.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C12Q001-68
 ICS G01N033-53
 NCL 435006000
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 7, 80
 FAN.CNT 16
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI	US 5547836	A	19960820	US 1993-31471	19930315
	US 5112960	A	19920512	US 1990-574786	19900830
	JP 04124185	A2	19920424	JP 1990-239764	19900910
	JP 11021285	A2	19990126	JP 1996-86324	19910830
	US 5330900	A	19940719	US 1991-806928	19911212
	US 5639907	A	19970617	US 1992-959531	19921013
	WO 9421821	A1	19940929	WO 1994-US2549	19940315
	W:	AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, TJ, TT, UA, UZ, VN			
	RW:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9464449	A1	19941011	AU 1994-64449	19940315
	EP 689611	A1	19960103	EP 1994-912204	19940315
	EP 689611	B1	20020130		
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE			
	JP 08507694	T2	19960820	JP 1994-521100	19940315
	EP 1120652	A1	20010801	EP 2001-102819	19940315
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE			
	AT 212722	E	20020215	AT 1994-912204	19940315
	US 5543295	A	19960806	US 1994-233085	19940425
	US 5679802	A	19971021	US 1995-433996	19950504
	US 5654154	A	19970805	US 1996-588260	19960118
	US 5831102	A	19981103	US 1996-598353	19960208
	US 5994073	A	19991130	US 1997-850009	19970501
	US 5856522	A	19990105	US 1997-882330	19970625
PRAI	US 1990-574786	A3	19900830		
	US 1991-806928	A2	19911212		
	US 1992-959531	A2	19921013		
	US 1989-367772	B3	19850515		
	US 1986-889823	A1	19860724		
	US 1987-140197	B2	19871231		
	US 1990-559152	A2	19900725		
	JP 1991-518245	A3	19910830		
	US 1993-31471	A	19930315		
	EP 1994-912204	A3	19940315		
	WO 1994-US2549	W	19940315		
	US 1994-233085	A1	19940425		
	US 1995-433996	A1	19950504		
	US 1996-588260	A1	19960118		
OS	MARPAT 125:269847				
AB	Chemiluminescent bioassays for the detection or quantitation of an analyte in a sample use 1,2-dioxetanes as substrates for the enzyme of an enzyme complex that binds to the analyte. The chemiluminescence obtained from the decompn. of the dioxetane triggered by the enzyme through the formation of the corresponding 1,2-dioxetane oxyanion of the enzyme complex is enhanced by the addn. of TBQ [poly(vinylbenzyltributylammonium chloride)] as an enhancement agent. Other polymeric quaternary onium salts can be used as enhancement agents in conjunction with enhancement additives which improve the ability of the enhancement agent to form hydrophobic regions in the aq. sample, in which regions the 1,2-dioxetane oxyanion and its chemiluminescent decompn. products can be sequestered. A kit for performing such assays is also provided.				
ST	chemiluminescence assay bioassay enzyme dioxetane substrate				
IT	Quaternary ammonium compounds, uses				
	RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (Lanoquat; chemiluminescent bioassays using enzymes with dioxetane substrates and enhancement agents)				
IT	Alcohols, uses				
	Detergents				
	Enzymes				

Phosphonium compounds

Polymers, uses

Salts, uses

Sulfonium compounds

Surfactants

Turpentine

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent bioassays using enzymes with **dioxetane**
substrates and enhancement agents)

IT Spectrochemical analysis

(chemiluminescence, chemiluminescent bioassays using enzymes
with **dioxetane** substrates and enhancement agents)

IT Onium compounds

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(quaternary, salts, chemiluminescent bioassays using enzymes with
dioxetane substrates and enhancement agents)

IT Quaternary ammonium compounds, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(tri-C8-10-alkylmethyl, chlorides, chemiluminescent bioassays using
enzymes with **dioxetane** substrates and enhancement agents)

IT 57-09-0, CTAB 67-63-0, 2-Propanol, uses 121-54-0, Benzethonium
chloride 122-18-9, Benzyldimethylcetyl ammonium chloride 123-96-6,
2-Octanol 139-08-2, Benzyldimethyltetradecyl ammonium chloride
151-21-3, SDS, uses 1464-44-4 1652-63-7, FC 135 4688-40-8, Sodium
benzyl sulfate 7281-04-1, Benzyldimethylodecyl ammonium bromide
7585-39-9, .beta.-Cyclodextrin 9002-89-5, Polyvinyl alcohol 9002-92-0,
PO 23LE 9002-93-1, Triton x 100 9002-98-6, Polyethylenimine
9002-98-6D, Polyethylenimine, benzylated 9003-05-8D, Polyacrylamide,
aminomethylated 9003-08-1, Aerotex M-3 9003-09-2, Polyvinyl methyl
ether 9005-64-5, Tween 20 9005-65-6, Tween 80 9014-92-0
9017-80-5, Poly(vinylbenzyltrimethylammonium chloride 9036-19-5,
Nonidet p-40 9042-14-2, Dextran sulfate 14937-45-2, Hexadecyltributyl
phosphonium bromide 24979-97-3, Polytetrahydrofuran 25104-37-4,
Polyvinyl ethyl ether 25155-30-0, Sodium dodecyl benzenesulfonate
25322-68-3 25322-69-4, Polypropylene glycol 25805-17-8,
Poly(2-ethyl-2-oxazoline) 25988-97-0, Agefloc B50 28728-55-4,
Polybrene 29836-26-8 39288-98-7, DAXAD 53754-72-6,
Poly-1,1-dimethyl-3,5-dimethylenepiperidinium chloride 54692-47-6, Zelec
DP 56602-33-6, BOP 72852-29-0, Poly(vinylbenzyltributylammoniu
m chloride) 75621-03-3, CHAPS 78564-79-1, Avitex ML 82473-24-3,
CHAPSO 92183-41-0, Celquat H100 106392-12-5, Pluronic 122
124951-96-8, AMPPD 135781-07-6 142849-53-4,
CSPD 146908-11-4, Avitex E 161697-30-9 161697-31-0
161697-48-9 162534-60-3, Agefloc A50HV 162534-61-4, Hipofix DDD
162534-62-5, Hipofix 491 162534-63-6, Hipofix DD-NF 162534-65-8,
Celquat SC240 182176-66-5, Avitex DN 182213-96-3 182241-24-3
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent bioassays using enzymes with **dioxetane**
substrates and enhancement agents)

IT **6788-84-7D**, 1,2-Dioxetane, derivs.

RL: ARG (Analytical reagent use); BPR (Biological process); BSU
(Biological study, unclassified); ANST (Analytical study); BIOL
(Biological study); PROC (Process); USES (Uses)
(chemiluminescent bioassays using enzymes with **dioxetane**
substrates and enhancement agents)

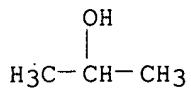
IT 67-63-0, 2-Propanol, uses **9017-80-5**,

Poly(vinylbenzyltrimethylammonium chloride 72852-29-0,
Poly(vinylbenzyltributylammonium chloride) 124951-96-8, AMPPD
135781-07-6 142849-53-4, CSPD 161697-30-9

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent bioassays using enzymes with **dioxetane**
substrates and enhancement agents)

RN 67-63-0 HCPLUS

CN 2-Propanol (9CI) (CA INDEX NAME)



RN 9017-80-5 HCPLUS

CN Benzenemethanaminium, ar-ethenyl-N,N,N-trimethyl-, chloride, homopolymer
(9CI) (CA INDEX NAME)

CM 1

CRN 26616-35-3

CMF C12 H18 N . Cl

CCI IDS



D1-CH=CH2

Me3+N-CH2-D1

● Cl-

RN 72852-29-0 HCPLUS

CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, homopolymer
(9CI) (CA INDEX NAME)

CM 1

CRN 62017-56-5

CMF C21 H36 N . Cl

CCI IDS

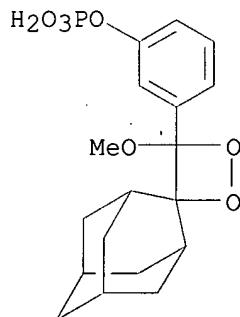


D1-CH=CH₂

(n-Bu)₃⁺N-CH₂-D1

● Cl⁻

RN 124951-96-8 HCAPLUS
 CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decان]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

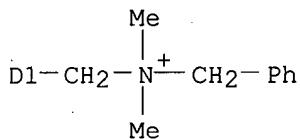


●2 Na

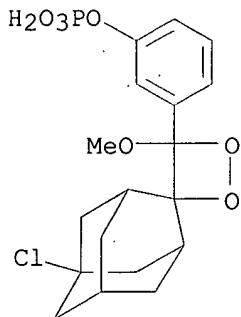
RN 135781-07-6 HCAPLUS
 CN Benzenemethanaminium, ar-ethenyl-N,N-dimethyl-N-(phenylmethyl)-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 62017-62-3
 CMF C18 H22 N . Cl
 CCI IDS

D1-CH=CH₂● Cl⁻

RN 142849-53-4 HCAPLUS
 CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decان]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 161697-30-9 HCAPLUS
 CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, polymer with ar-ethenyl-N,N,N-trihexylbenzenemethanaminium chloride (9CI) (CA INDEX NAME)

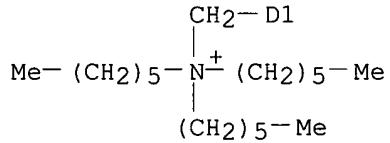
CM . 1

CRN 62017-56-5
 CMF C21 H36 N . Cl
 CCI IDS

D1-CH=CH₂(n-Bu)₃⁺N-CH₂-D1● Cl⁻

CM 2

CRN 59535-22-7
 CMF C27 H48 N . Cl
 CCI IDS

D1-CH=CH₂● Cl⁻

IT 6788-84-7D, 1,2-Dioxetane, derivs.

RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
 (chemiluminescent bioassays using enzymes with dioxetane substrates and enhancement agents)

RN 6788-84-7 HCPLUS
 CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)



L81 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2003 ACS
 AN 1995:511642 HCAPLUS
 DN 122:260574
 TI Buffer and substrate and sensitivity enhancer for **alkaline phosphatase** determination
 IN Sugiyama, Masami; Isomura, Mitsuo; Saruta, Hiroko; Ashihara, Yoshihiro
 PA Fujirebio Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 IC ICM C12Q001-42
 CC 9-15 (Biochemical Methods)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07031499	A2	19950203	JP 1993-200171	19930721
	JP 3146778	B2	20010319		

PRAI JP 1993-200171 19930721

OS MARPAT 122:260574

AB The disclosed buffer is a deriv. of amine or aminosulfonic acid, the substrate is a deriv. of AMPPD, and the sensitivity enhancer is a **polymer** of deriv. of trialkyl(vinylbenzyl)ammonium salt. In example, AMPPD (substrate) and polyvinylbenzyl(benzyldimethylammonium)chloride (BDMQ; sensitivity enhancer) were used in conjunction to DEA-HCl, DEA-BES, TEA-BES, DEA-MOPS, DEA-CAPS, DEA-TAPS, and DEA-CAPSO for quantification of **alk. phosphatase** in an immunoassay with immobilized anti-.alpha.-fetoprotein (or TSH) and phosphatase-labeled anti-.alpha.-fetoprotein (or TSH) for .alpha.-fetoprotein (or TSH) detn.

ST **alk phosphatase** buffer substrate enhancer immunoassay

IT Antibodies

RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (alk. phosphatase-labeled antibody to TSH or
 .alpha.-fetoprotein and buffer and substrate and sensitivity enhancer
 for alk. phosphatase detn.)

IT Amines, analysis

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (alkyl derivs.; amine deriv. buffer and AMPPD substrate and
 sensitivity-enhancing trialkyl(vinylbenzyl)ammonium salt
polymer are used for alk. phosphatase
 detn.)

IT Fetoproteins

RL: ANT (Analyte); ANST (Analytical study)
 (.alpha.-, alk. phosphatase-labeled antibody to TSH
 or .alpha.-fetoprotein and buffer and substrate and sensitivity
 enhancer for alk. phosphatase detn.)

IT 9002-71-5, TSH

RL: ANT (Analyte); ANST (Analytical study)
 (alk. phosphatase-labeled antibody for TSH detn.
 and buffer and substrate and sensitivity enhancer for alk.
 phosphatase detn.)

IT 102-71-6, Triethanolamine, analysis 110-85-0D, Piperazine,
 sulfonyl derivs.; salts 110-91-8D, Morpholine, sulfonyl derivs.; salts
 1132-61-2, MOPS 1135-40-6, CAPS 9017-80-5D,
 Vinylbenzyltrimethylammonium chloride **polymer**, analogs
 10191-18-1, BES 14426-21-2, Diethanolamine hydrochloride 29915-38-6,
 TAPS 72852-29-0D, analogs 73463-39-5, CAPSO
 122341-56-4D, derivs.; salts 135781-07-6
 142456-88-0D, derivs.; salts
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(amine deriv. buffer and AMPPD substrate and sensitivity-enhancing trialkyl(vinylbenzyl)ammonium salt **polymer** are used for alk. phosphatase detn.)

IT 9001-78-9D, Alkaline phosphatase, alkyl derivs.

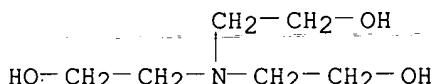
RL: ARU (Analytical role, unclassified); ANST (Analytical study) (amine deriv. buffer and AMPPD substrate and sensitivity-enhancing trialkyl(vinylbenzyl)ammonium salt **polymer** are used for alk. phosphatase detn. in immunoassay)

IT 102-71-6, Triethanolamine, analysis 9017-80-5D, Vinylbenzyltrimethylammonium chloride **polymer**, analogs 72852-29-0D, analogs 122341-56-4D, derivs.; salts 135781-07-6 142456-88-0D, derivs.; salts

RL: ARU (Analytical role, unclassified); ANST (Analytical study) (amine deriv. buffer and AMPPD substrate and sensitivity-enhancing trialkyl(vinylbenzyl)ammonium salt **polymer** are used for alk. phosphatase detn.)

RN 102-71-6 HCPLUS

CN Ethanol, 2,2',2'''-nitrilotris- (9CI), (CA INDEX NAME)



RN 9017-80-5 HCPLUS

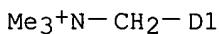
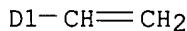
CN Benzenemethanaminium, ar-ethenyl-N,N,N-trimethyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 26616-35-3

CMF C12 H18 N . Cl

CCI IDS



RN 72852-29-0 HCPLUS

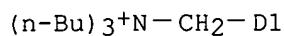
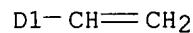
CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

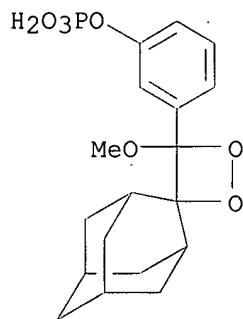
CRN 62017-56-5

CMF C21 H36 N . Cl

CCI IDS



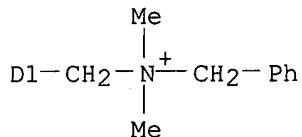
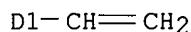
RN 122341-56-4 HCAPLUS
 CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decane]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



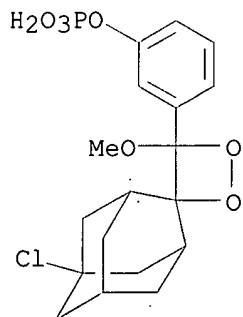
RN 135781-07-6 HCAPLUS
 CN Benzenemethanaminium, ar-ethenyl-N,N-dimethyl-N-(phenylmethyl)-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 62017-62-3
 CMF C18 H22 N . Cl
 CCI IDS



RN 142456-88-0 HCAPLUS
 CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decان]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



IT 9001-78-9D, Alkaline phosphatase, alkyl derivs.
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (amine deriv. buffer and AMPPD substrate and sensitivity-enhancing trialkyl(vinylbenzyl)ammonium salt **polymer** are used for alk. phosphatase detn. in immunoassay)
 RN 9001-78-9 HCAPLUS
 CN Phosphatase, alkaline (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L81 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2003 ACS
 AN 1995:169405 HCAPLUS
 DN 122:260545
 TI Additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates
 IN Bronstein, Irena Y.; Edwards, Brooks; Voyta, John C.
 PA Tropix, Inc., USA
 SO PCT Int. Appl., 61 pp.
 CODEN: PIXXD2
 DT Patent
 LA English

IC ICM C12Q001-68

CC 9-5 (Biochemical Methods)

FAN.CNT 16

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9421821	A1	19940929	WO 1994-US2549	19940315
	W: AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, TJ, TT, UA, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5547836	A	19960820	US 1993-31471	19930315
	AU 9464449	A1	19941011	AU 1994-64449	19940315
	EP 689611	A1	19960103	EP 1994-912204	19940315
	EP 689611	B1	20020130		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 08507694	T2	19960820	JP 1994-521100	19940315
	AT 212722	E	20020215	AT 1994-912204	19940315
	US 5856522	A	19990105	US 1997-882330	19970625
PRAI	US 1993-31471	A	19930315		
	US 1990-574786	A3	19900830		
	US 1991-806928	A2	19911212		
	US 1992-959531	A2	19921013		
	WO 1994-US2549	W	19940315		
	US 1995-433996	A1	19950504		
OS	MARPAT 122:260545				
AB	Disclosed is additives for enhancing chemiluminescent bioassays for the presence or concn. of an analyte in a sample use 1,2-dioxetanes as substrates for the enzyme of an enzyme complex that bind to the analyte. The additives include surfactant (e.g. Tween 20), solvent (e.g. isopropanol, polyvinyl alc.), and water-sol. polymers (e.g. polymeric quaternary onium salts). The chemiluminescence obtained from the decompn. of the dioxetane triggered by the enzyme through the formation of the corresponding 1,2-dioxetane oxyanion of the enzyme complex is enhanced by the addn. of poly(vinylbenzyltributylammonium chloride) as an enhancement agent. Other polymeric quaternary onium salts can be used as enhancement agents in conjunction with enhancement additives which improve the ability of the enhancement agent to form hydrophobic regions in the aq. sample, in which regions the 1,2-dioxetane oxyanion and its chemiluminescent decompn. products can be sequestered. A kit for performing such assays is also provided.				
ST	additive chemiluminescence bioassay enhancement; polymeric quaternary ammonium salt; sulfonium polymeric quaternary salt; phosphonium polymeric quaternary salt; surfactant solvent detergent additive chemiluminescence bioassay				
IT	Detergents Solvents Surfactants (additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)				
IT	Phosphonium compounds RL: MOA (Modifier or additive use); USES (Uses) (polymeric ; additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)				
IT	Polymers , uses RL: MOA (Modifier or additive use); USES (Uses) (water-sol.; additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)				
IT	Sulfonium compounds RL: MOA (Modifier or additive use); USES (Uses) (polymers , quaternary and salts; additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)				

IT Quaternary ammonium compounds, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (polymers, salts; additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)

IT Quaternary ammonium compounds, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (tri-C8-10-alkylmethyl, chlorides, Adogen 464; additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)

IT 6788-84-7, 1,2-Dioxetane 124951-96-8, AMPPD
 142849-53-4, CSPD
 RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)

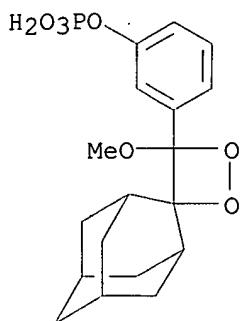
IT 57-09-0, Cetyl trimethyl ammonium bromide 67-63-0, Isopropanol, uses 121-54-0, Benzethonium chloride 122-18-9, Benzylidimethylcetylammmonium chloride 123-96-6, 2-Octanol 151-21-3, SDS, uses 1464-44-4 7585-39-9, .beta. Cyclodextrin 9002-89-5, Poly(vinyl alcohol) 9002-92-0, Polyoxyethylene-23-lauryl ether 9002-93-1, Triton X 100 9002-98-6, PEI 9002-98-6D, benzylated 9003-05-8D, Polyacrylamide, Aminomethylated 9003-08-1, Aerotex M-3 9003-09-2, Poly(vinyl methyl ether) 9005-64-5, Tween 20 9005-65-6, Tween 80 9017-80-5, Poly(vinylbenzyltrimethylammonium chloride) 9042-14-2, Dextran sulfate 14937-45-2, Hexadecyltributylphosphonium bromide 24979-97-3, Poly(tetrahydrofuran) 25104-37-4, Poly(vinyl ethyl ether) 25155-30-0, Sodium dodecylbenzenesulfonate 25322-68-3, Poly(ethylene oxide) 25322-69-4, Polypropylene glycol 25805-17-8, Poly(2-ethyl-2-oxazoline) 28728-55-4, Polybrene 39288-98-7, DAXAD 41444-50-2, Octyl glucoside 53754-72-6 54692-47-6, Zelec DP 56602-33-6, BOP 62227-68-3 72852-29-0 75621-03-3, CHAPS 77322-08-8, FC-15 78564-79-1, Avitex ML 82473-24-3, CHAPSO 92183-41-0, Celquat H 100 106392-12-5, Pluronic 123 135781-07-6 153569-63-2, Agefloc B 50 161697-30-9 161697-31-0 161697-46-7 161697-47-8 161697-48-9 162534-59-0, Agefloc A 50 162534-60-3, Agefloc A 50HV 162534-61-4, Hipofix DDD 162534-62-5, Hipofix 491 162534-63-6, Hipofix DD-NF 162534-64-7, Nonidet P 400 162534-65-8, Celquat SC 240
 RL: MOA (Modifier or additive use); USES (Uses)
 (additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)

IT 6788-84-7, 1,2-Dioxetane 124951-96-8, AMPPD
 142849-53-4, CSPD
 RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)

RN 6788-84-7 HCPLUS
 CN 1,2-Dioxetane (6CI, 8CI, 9CI) (CA INDEX NAME)

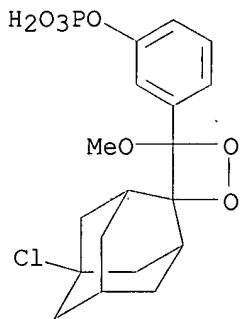
O—O

RN 124951-96-8 HCPLUS
 CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



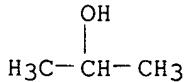
●2 Na

RN 142849-53-4 HCAPLUS
 CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decyl]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IT 67-63-0, Isopropanol, uses 9017-80-5,
 Poly(vinylbenzyltrimethylammonium chloride) 72852-29-0
 135781-07-6 161697-30-9
 RL: MOA (Modifier or additive use); USES (Uses)
 (additives for enhancing chemiluminescent assays using 1,2-dioxetanes as substrates)
 RN 67-63-0 HCAPLUS
 CN 2-Propanol (9CI) (CA INDEX NAME)



RN 9017-80-5 HCAPLUS
 CN Benzenemethanaminium, ar-ethenyl-N,N,N-trimethyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 26616-35-3
 CMF C12 H18 N . Cl
 CCI IDS



D1-CH=CH₂

Me₃⁺N-CH₂-D1

● Cl⁻

RN 72852-29-0 HCPLUS
 CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, homopolymer
 (9CI) (CA INDEX NAME)

CM 1

CRN 62017-56-5
 CMF C21 H36 N . Cl
 CCI IDS



D1-CH=CH₂

(n-Bu)₃⁺N-CH₂-D1

● Cl⁻

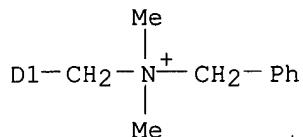
RN 135781-07-6 HCPLUS
 CN Benzenemethanaminium, ar-ethenyl-N,N-dimethyl-N-(phenylmethyl)-, chloride,
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 62017-62-3
 CMF C18 H22 N . Cl
 CCI IDS



D1-CH=CH₂



● Cl⁻

RN 161697-30-9 HCAPLUS

CN Benzenemethanaminium, N,N,N-tributyl-ar-ethenyl-, chloride, polymer with ar-ethenyl-N,N,N-trihexylbenzenemethanaminium chloride (9CI) (CA INDEX NAME)

CM 1

CRN 62017-56-5

CMF C21 H36 N . Cl

CCI IDS



D1-CH=CH₂

(n-Bu)₃⁺N-CH₂-D1

● Cl⁻

CM 2

CRN 59535-22-7

CMF C27 H48 N . Cl

CCI IDS

